

*Exhibit 1***Association of Oil Pipe Lines****AOPL****An American Supply Line - Moving the Energy and Raw Materials of Our Daily Lives**

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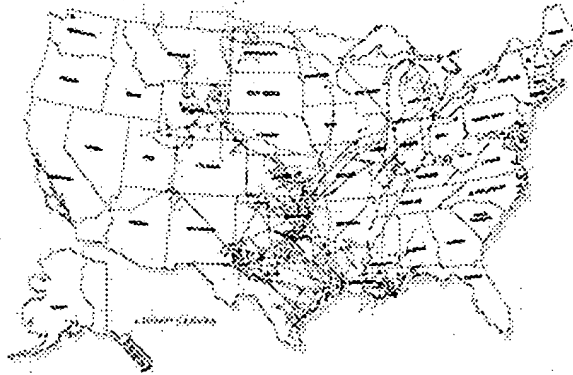
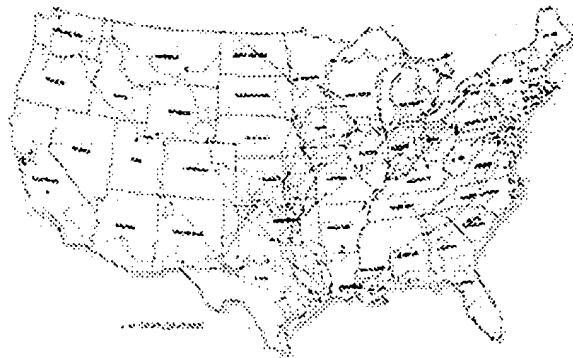
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**How Pipelines Work**

The nation's oil pipelines transport crude oil from oilfields to refineries where the oil is turned into dozens of useful products such as gasoline, home heating oil, jet fuel, diesel, lubricants and the raw materials for fertilizer, chemicals and pharmaceuticals. They then transport refined products to depots that distribute them to the companies and consumers that daily rely on a steady and cheaply transported supply of these products.

**MAJOR CRUDE OIL PIPELINES**[Click here for a larger image](#)**MAJOR REFINED PIPE LINES**[Click here for a larger image](#)

Pipeline pathways first transport crude oil from oil fields and coastal shipping terminals to refineries. Then, after the oil is processed, pipelines handle the second part of the journey - transporting gasoline, jet fuel, heating oil, diesel and other refined products to distribution centers.

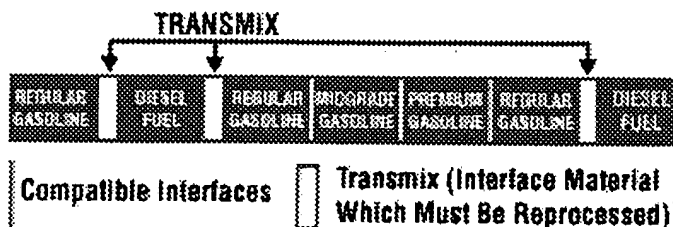
Many different kinds of oil and oil products are shipped through pipelines in batches. The physical principles of hydraulics keep the batches of liquid from blending and contaminating one another except where they actually touch. These "interfaces" between different shipments are separated out when they arrive at their destination and are reprocessed.

pipeline pigs.

The first oil pipeline in the United States was built in 1865, following the discovery of oil in Pennsylvania. By the early 1900s, major discoveries had been made in Texas, Oklahoma and Kansas and pipelines had become a

common method of moving crude oil. However, these early pipelines have long since been decommissioned. They were small diameter pipes that were quite inefficient by today's standards.

### Typical Sequence in which Petroleum Flows through a Products Pipeline



Leading up to World War II, pipeline companies were operating a maze of these small-diameter pipes laid out in parallel in order to carry enough capacity to fulfill the nation's needs for petroleum. Pump stations were powered by diesel engines, and were usually spaced every 30 miles. Each of these pump stations had to be manned around the clock to keep the system operating properly and the coordination of these multiple operating stations meant there was a lot more opportunity for human error.

Following the war, a technological revolution took place. The need for technological improvements in oil pipelines was driven by three factors.

- Consumer demand for petroleum in the prosperity of the Fifties.
- The growth of American industry that took place during the war.
- Increasing awareness of the importance of petroleum to the nation's security interests following wartime gasoline rationing. (More than 100 military bases and other facilities have their own direct connections with oil pipelines.)

Today, technology allows the manufacture of large diameter and much more efficient pipeline systems and pump stations are primarily driven by clean electrical power.

Nearly all of the vast volume of petroleum now transported by pipeline moves through highly automated systems - automation that has been a major factor in reducing the number and volume of pipeline spills. These computer-aided systems allow highly trained operators working in sophisticated central control rooms to monitor rates of flow, pressures and fluid characteristics. Fluctuations can be detected quickly, alerting operators to potential leaks and allowing them to shut down lines and dispatch crews to investigate.

## MAJOR REFINED PIPE LINES



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